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Evaluation of Hazard Trees in Forest Recreation Sites on the McKenzie and Blue River Ranger Districts

Forest Supervisor, Willamette NF

On May 12-14, Gregory Filip, Don Goheen, and Alan Kanaskie, Pathologists and Biological Technician from Forest Pest Management, visited the McKenzie and Blue River Ranger Districts. They were accompanied by several people from both Districts including Steve Otoupalik from the McKenzie Ranger District and Chuck Anderson from the Blue River Ranger District. Purpose of the visit was to examine several campgrounds and summer home tracts for trees that might pose hazard because of disease.

The first area visited was the Limberlost Campground (T. 16 S., R. 6 E., sec. 14) on the McKenzie Ranger District. The campground is located in an old-growth Douglas-fir stand with some second-growth Douglas-fir, western hemlock, and western redcedar. The District had marked 20 old-growth firs that they had tentatively identified as being defective and thus hazardous to camping units. All marked trees had two or more conks of *Phellinus (Fomes) pini* separated by 10 feet or more on the stem. Where conks were within reach, trees were drilled to determine extent of decay near conks. All trees with conks had considerable decay indicating that they were potentially hazardous.

Decay caused by *P. pini* is not as extensive as that caused by other fungi such as *Echinodontium tinctorium* (Indian paint fungus) or *Fomes laricis* (Quinine fungus). Trees with only one *P. pini* conk are not as prone to failure as trees with one of the aforementioned conks.

Some trees also had conks of *Phaeolus schweinitzii*. Such conks in Douglas-fir frequently indicate extensive butt rot, often reaching several feet into the bole. Frequently affected trees have only a thin rind of sound wood. Such trees have a high probability of failure near the ground line and, therefore, should be treated if near valuable targets.

A few hemlocks in the Campground had large wounds, conks, or root damage. Drilling revealed extensive decay in affected trees. Such trees should be treated if they are within striking distance of valuable targets.

Some cedars had hollow butts or extensive internal decay. However, unless the hollow or decay encompasses more than one-third of the circumference of the tree, FPM pathologists have found that cedars will not have a high probability of failure. Live buttresses on cedars provide sufficient support even though defect may appear extensive.

In general, all trees marked by District personnel in the Limberlost Campground are hazardous, and in all cases, should be treated to prevent serious property damage or loss of life should such trees fail. The District appears to have a very good grasp of hazard identification techniques.

The second site the FPM personnel visited on the McKenzie Ranger District was the Upper Scott Creek Summer Home Tract (T. 16 S., R. 7 E., sec 7). The summer homes are located in an old-growth Douglas-fir stand with some second-growth hemlock and cedar. Several lots were examined, and trees that were within striking distance of buildings and had a high probability of failure were marked. All trees with two or more conks of *P. pini* separated by 10 feet or more were marked. Summer homes in defective old-growth stands are an especially serious problem because of the large size of the trees and the high value and permanence of the potential targets.

The third area visited on the McKenzie Ranger District was the Delta Summer Home Tract (T. 16 S., R. 5 E.). Some of the homes were located near old-growth Douglas-fir, but the stand covering much of the tract was composed of second-growth Douglas-fir, hemlock, or cedar. Several units were examined, and trees that posed hazards were marked. Trees with two or more conks of *P. pini* separated by 10 feet or more were tagged. Also, several trees with large wounds and little sound wood remaining were marked. One Douglas-fir with a conk of *F. laricis* was marked since this conk generally indicates very extensive internal decay.

Near one unit, two dead trees infected with *Phellinus (Poria) weirii*, causal agent of laminated root rot, were detected. Laminated root rot is an especially serious problem in recreation sites located in old-growth Douglas-fir. Infected trees may appear healthy and still have decayed root systems which predispose them to windfall or breakage near the ground line. It was suggested that the dead trees be removed immediately and the adjacent healthy appearing trees be examined periodically for signs and symptoms of *P. weirii* such as ectotrophic mycelium on the roots and thin, ragged crowns. All trees within 50 feet of infected trees have a high probability of being infected also.

On May 14, the Forest Pest Management staff visited two campgrounds on the Blue River Ranger District. In the Mona Campground (T. 16 S., R. 4 E., sec. 1), several old-growth western redcedars with dead tops and declining crowns were examined. All trees examined had butt rot. However, unless more than one-third of their circumference is hollow or decayed, cedars do not have a high probability of failure. Live buttresses on cedars provide sufficient support, even though defect may appear extensive. Dead tops on cedar will not decay as rapidly as dead tops on hardwoods, hemlocks, or even Douglas-firs. Therefore, cedars with dead tops need not be treated unless the tops 1) have visible defects such as cracks, holes, or decay or 2) are located directly above valuable targets.

Several maples with dead tops were observed in the campground. Trees with dead tops adjacent to valuable targets should be removed or have their tops pruned.

Several hemlocks with large wounds were drilled to determine extent of internal decay. In a few cases, such trees had very little sound wood remaining and these should be treated if within striking distance of valuable targets.

In one case, a hemlock had been felled that had extensive butt rot caused by *P. weirii*. It could not be determined if the tree was alive prior to felling. Western hemlock is more resistant to laminated root rot than Douglas-fir and usually will be butt-rotted rather than killed. Douglas-fir adjacent to the infected hemlock were examined, but no signs of infection could be detected.

It is recommended that firs and hemlocks in this area be examined periodically for symptoms of *P. weirii* and removed if within striking distance of valuable targets.

The second site visited on the Blue River Ranger District was the Delta Campground and Interpretive Site (T. 16 S., R 4 E., sec. 24). The trail through the Interpretive Site was walked and examined. The stand in the Interpretive area is composed of extremely old Douglas-fir, grand fir, and hemlock. Some of the trees had several conks of *P. pini* and probably were severely decayed. Also, a few large snags were within striking distance of the trail. However, due to the lack of permanent structures or frequently occupied areas, defective trees along trails do not pose the same degree of hazard as do defective trees within campgrounds or summer home tracts. Therefore, FPM does not recommend treatment of defective trees along the trail within the Interpretive Site.

Several camping units were examined in the Delta Campground. A few old-growth Douglas-firs with two or more conks of *P. pini* separated by 10 feet or more were within striking distance of camping units. Such trees should be treated. Also, one large hemlock with woodpecker holes was drilled and found to be thoroughly decayed. Since this tree was adjacent to a camping unit, the tree should be removed.

It was requested that Forest Pest Management personnel visit other Districts on the Willamette National Forest and provide a similar service to that given on the McKenzie and Blue River Districts. This can be arranged at the convenience of the Districts.

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